What is claimed is:

1. A communication apparatus in an Ethernet-passive optical network (EPON), the communication apparatus comprising:

an emulation sublayer, which extracts logical link identification (LLID) information from a preamble included in a frame; and

a passive optical network (PON) bridge sublayer, which creates and manages a filtering address table for a destination media access control (MAC) address and a virtual LAN (VLAN) ID in response to the LLID information, determines whether to forward the frame to the upper layer of the PON bridge sublayer or to reflect the frame toward an optical network unit (ONU), and provides point-to-point communications between a plurality of ONUs connected to the EPON and VLAN multicasting.

2. The communication apparatus of claim 1, wherein data transceiving between the emulation sublayer and a physical layer is performed through a gigabit media independent interface (GMII).

3. The communication apparatus of claim 1, wherein a connecting portion of the upper layer is connected to either one of a plurality of common switches or a network processor (NP) through either the GMII or a system physical interface (SPI).

4. The communication apparatus of claim 1, which is either an optical line termination (OLT) connected to a point-to-multipoint network established in the EPON or one of a plurality of ONUs connected to a subscriber side.

5. The communication apparatus of claim 1, further comprising:

a PON-MAC control sublayer, which is connected to the upper layer of the PON bridge sublayer and performs bandwidth assignment, scheduling, and MAC control; and

a MAC sublayer, which is connected between the PON-MAC control sublayer and the emulation sublayer, performs, in a downstream direction, frame check sequence (FCS) creation and inter frame gap (IFG) insertion with respect to multi-point control protocol (MPCP) control frames among frames received from the PON-MAC control sublayer, and management information base (MIB) counter management with respect to downstream frames, and performs, in an upstream

direction, a FCS test, address filtering, and MIB counter management with respect to the upstream frames.

6. The communication apparatus of claim 5, wherein the PON-MAC control sublayer complies with the MPCP to control PON transmission while conforming to an Ethernet MAC frame transmission protocol.

7. The communication apparatus of claim 5, wherein the emulation sublayer positions a start frame delimiter (SFD) in front of the LLID included in the frame received from the PON-MAC control sublayer in data transmission, calculates a CRC value of the preamble, inserts the calculated CRC value in the preamble to create an EPON preamble.

8. The communication apparatus of claim 7, wherein the EPON preamble is comprised of SFD data, reserved data, LLID data, and CRC data, each of which has a predetermined number of bytes.

9. The communication apparatus of claim 1, wherein the PON bridge sublayer comprises:

a first processing portion, which changes the format of a downstream frame received from the upper layer to a predetermined internal data format and performs the FCS test and frame matching on the changed frame;

a first input queue, which stores the frame received through the first processing portion;

a first lookup and learning portion, which performs either destination address lookup or VLAN ID lookup with respect to the frame stored in the first input queue;

a first output queue, which stores the frame received from the first lookup and learning portion, according to priority, and transmits the frame to the PON-MAC control sublayer;

a second input queue, which stores an upstream frame received from the PON-MAC control sublayer according to priority;

a second lookup and learning portion, which performs either destination address lookup or VLAN ID lookup with respect to the frame stored in the first input queue and detects a destination address of the frame and the LLID of the frame;

a filtering database table in which a result of the destination address lookup is stored;

a VLAN ID table in which a result of the VLAN ID lookup is stored;

a table control portion, which performs data recording and management with respect to the filtering database table and the VLAN ID table in response to the control of the second lookup and learning portion and the first lookup and learning portion;

a second output queue, which receives the frame stored in the first input queue through the first lookup and learning portion and stores the received frame; and

a second processing portion, which changes the format of the frame stored in the first output queue to a predetermined data format and transmits the changed frame to the upper layer.

10. The communication apparatus of claim 9, wherein the PON bridge sublayer further comprises a loop back queue which stores a frame that is transmitted from a ONU to another ONU, between the first lookup and learning portion and the second input queue.

11. The communication apparatus of claim 10, wherein the frame transmitted between ONUs includes an LLID indicating a destination ONU.

12. The communication apparatus of claim 9, wherein the first lookup and learning portion and the second lookup and learning portion prevent the filtering database table and the VLAN ID table from being affected by aging that is performed by a CPU, by marking data update in the filtering database table and the VLAN ID table when storing learned contents.

13. The communication apparatus of claim 9, wherein the first input queue generates a predetermined control signal when overflow occurs, and causes the first processing portion to generate a pause frame.

14. The communication apparatus of claim 9, wherein when at least one frame is present in a plurality of priority queues forming the first output queue, the first output queue stores in a separate queue the number of all of the frames present in each of the priority queues, the size of the first frame present in each of the priority

queues, and a header of the first frame present in each of the priority queues.